

STATE OF TENNESSEE

Office of the Attorney General



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PAUL G. SUMMERS
ATTORNEY GENERAL AND REPORTER

MAILING ADDRESS

P.O. BOX 20207
NASHVILLE, TN 37202

MICHAEL E. MOORE
SOLICITOR GENERAL

CORDELL HULL AND JOHN SEVIER
STATE OFFICE BUILDINGS

TELEPHONE 615-741-3491
FACSIMILE 615-741-2009

ANDY D. BENNETT
CHIEF DEPUTY ATTORNEY GENERAL

LUCY HONEY HAYNES
ASSOCIATE CHIEF DEPUTY
ATTORNEY GENERAL

Reply to:
Consumer Advocate and Protection Division
Post Office Box 20207
Nashville, TN 37202

June 23, 2003

Honorable Sara Kyle
Chairman
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

**RE: Rebuttal Testimony of Steve Brown In RE: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges So As to Permit it to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers
Docket No. 03-00118**

Dear Chairman Kyle:

Enclosed is an original and thirteen copies of the Rebuttal Testimony of Steve Brown from the Consumer Advocate and Protection Division of the Office of the Attorney General in the above noted docket. Kindly file same in this docket. We are forwarding copies of same to all parties of record. If you have any questions, please feel free to contact me at (615) 532-3382. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Vance Broemel".

VANCE BROEMEL
Assistant Attorney General

Enclosures

cc: All Parties of Record

65664

Rebuttal Testimony of Steve Brown

Q_1. Please state your name.

A_1. Steve Brown.

Q_2. Are you the same "Steve Brown" who filed direct testimony in this docket?

A_2. Yes.

Q_3. What were you asked to do with respect to this particular rebuttal testimony you are providing?

A_3. I was asked to provide rebuttal testimony regarding the direct testimony of witnesses testifying on behalf of the Chattanooga Manufacturers Association (CMA) with regard to their assertions that the Tennessee American's residential class is being subsidized by the other classes of customers.

For example, Mr. Randy Crowder, in his direct testimony at the bottom page 6, states: "Any increase, simply put, should result in the customer base causing the increase to pay its fair share for the provision of services to that type of customer."

Q_4. According to Tennessee American's cost of service study, which class is not paying its fair share of cost?

A_4. According to TnAm's study, filed as Schedule A in Mr. Herbert's direct testimony, the

1 residential class creates 48.9% of the costs but
2 contributes only 41% of the revenue, and the
3 residential class is the only group whose
4 company-allocated costs exceed the revenue
5 contribution.

6
7 **Q_5. Does CMA consider TnAm's study to be reasonable?**

8
9 **A_5.** Yes. CMA considers TnAm's study to be reasonable
10 according to Mr. Mike Gorman, who states in his
11 direct testimony at page 2 line 16, "I find
12 TAWC's cost of service to be generally
13 reasonable." Mr. Gorman suggests that the
14 residential class bear the entire burden of any
15 rate increase, when he states at page 10 line,
16 line 16 of his testimony: "To the greatest
17 extent possible, I recommend only the classes
18 whose current rates do not meet TAWC's full cost
19 of service receive a rate increase in this
20 proceeding."

21
22 **Q_6. Do you agree with Mr. Gorman's opinion, that the**
23 **Company's cost of service is generally**
24 **reasonable?**

25
26 **A_6.** No, I disagree with Mr. Gorman because my
27 opinion is that the Company's cost of service is
28 not reasonable. Therefore, Mr. Gorman's opinion
29 is a mistake, and to prove that, I have prepared
30 Rebuttal Schedule 1, which is attached to my
31 Rebuttal Testimony. Schedule 1, as well as the
32 tables appearing within the body of my rebuttal
33 testimony, prove that that Company allocates
34 approximately \$7.5 million to the revenue
35 classes on the basis of two methods the Company
36 calls "Maximum Day Extra Capacity" and "Maximum
37 Hour Extra Capacity." However, these two methods
38 are wholly arbitrary because the Company has

provided no evidence substantiating the numbers which the Company uses for each revenue class's "Maximum Day Extra Capacity" and "Maximum Hour Extra Capacity." Since nearly one-quarter of the Company's costs are allocated on a wholly arbitrary basis, TnAm's cost study is not reasonable and therefore, Mr. Gorman's opinion is mistaken.

The very last page of Schedule 1 shows that the Company's cost study heavily depends on the independent or "stand alone" factors 1, 2, 3 and 4, which together account for nearly two-thirds of the allocations. Factors 2, 3 and 4 account for over 57% of the allocations, and these three factors also are heavily influenced by "Maximum Day Extra Capacity" and "Maximum Hour Extra Capacity."

Q_7. Does the Company's cost of service study explicitly highlight the importance of "Maximum Day Extra Capacity" and "Maximum Hour Extra Capacity?"

A_7. No, the importance of those factors is not explicitly shown in Company's cost of service study. The Company chose to express its cost study in terms of 21 allocation factors, but at least eight of those are ultimately derived from the "stand alone" factors. Here is a summary Company's study displayed in order from the largest to the smallest allocation factor:

Cost Allocation As Represented in the Company's Cost Of Service Study, Schedule B - Pages 1-7 & Schedule C - Pages 20 - 22 of Mr. Herbert's Direct Testimony				
Stand Alone and Dependent Factors	Amount Allocated	Percent	Cumulative Percent	Factor Depends On
17	10,242,797	30.9%	30.9%	Stand Alone Factors
14	6,000,539	18.1%	49.0%	Stand Alone Factors
16	2,660,657	8.0%	57.0%	Stand Alone Factors
15	2,583,338	7.8%	64.8%	Stand Alone Factors
1	2,388,192	7.2%	72.0%	Average Day
7	1,645,974	4.9%	76.9%	Stand Alone Factors
12	1,449,817	4.4%	81.3%	Bills Rendered
2	1,353,893	4.1%	85.4%	Average Day & Max Day
6	1,165,435	3.5%	88.9%	Stand Alone Factors
10	767,271	2.3%	91.2%	Meters In Place
4	643,778	1.9%	93.1%	Average Day & Max Day & Max Hour
11	589,859	1.7%	94.8%	Meters In Place
13	450,284	1.4%	96.2%	Meters Read
3	301,399	0.9%	97.1%	Average Day & Max Day
8	214,395	0.6%	97.8%	Stand Alone Factors
21	199,666	0.6%	98.4%	Not Examined By CAPD
5	194,107	0.6%	99.0%	Average Day & Max Day & Max Hour
9	168,672	0.5%	99.5%	Stand Alone Factors
19	153,074	0.5%	99.9%	Not Examined By CAPD
20	38,438	0.1%	100.0%	Not Examined By CAPD
18	13,490	0.0%	100.0%	Not Examined By CAPD
	33,151,095			

But when the study is expressed in terms of the independent, "stand alone" factors the results are:

1

Cost Allocation Based On Stand Alone Factors				
Stand Alone and Dependent Factors	Amount Allocated Zero Indicates Dependent Factor	Percent	Cumulative Percent	Factor Description
1	2,606,616	7.9%	7.9%	Average Day
2	3,670,123	11.1%	19.0%	Average Day & Max Day
3	6,036,936	18.2%	37.1%	Average Day & Max Day
4	9,477,929	28.6%	65.7%	Average Day & Max Day & Max Hour
5	125,387	0.2%	67.9%	Average Day & Max Day & Max Hour
6	0	0.0%	67.9%	Stand Alone Factors
7	0	0.0%	67.9%	Stand Alone Factors
8	0	0.0%	67.9%	Stand Alone Factors
9	0	0.0%	67.9%	Stand Alone Factors
10	2,271,988	9.8%	77.8%	Meters In Place
11	2,216,074	6.7%	84.5%	Meter Equivalents
12	2,887,261	8.7%	93.2%	Bills Rendered
13	1,182,540	3.6%	96.8%	Meters Read
14	0	0.0%	96.8%	Stand Alone Factors
15	0	0.0%	96.8%	Stand Alone Factors
16	0	0.0%	96.8%	Stand Alone Factors
17	0	0.0%	96.8%	Stand Alone Factors
18	-13,490	0.0%	96.7%	Not Examined By CAPD
19	199,483	0.6%	97.3%	Not Examined By CAPD
20	51,021	0.2%	97.5%	Not Examined By CAPD
21	328,636	2.5%	100.0%	Not Examined By CAPD
	33,161,176	100.0%		

2
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10

1
2 **Q_8. How does the Company describe the term "Maximum**
3 **Day Extra Capacity?"**

4
5 **A_8.** The Company's witness on the cost of service,
6 Mr. Herbert, describes "Maximum Day Extra
7 Capacity" in his Schedule C, Page 2 of 24: "The
8 weighting of the factors is based on a review of
9 the maximum day ratio of 1.40, based on a review
10 of maximum day ratios experienced during the
11 period 1995 through 2001."

12
13 **Q_9. Did Mr. Herbert review the maximum day ratios of**
14 **TnAm's customer classes?**

15
16 **A_9.** No. Mr. Herbert did not review the maximum day
17 ratios of TnAm's customer classes.

18
19 **Q_10. Whose maximum day ratios did Mr. Herbert review?**

20
21 **A_10.** Mr. Herbert reviewed the maximum day ratios of
22 out-of-state water companies. In the response to
23 discovery request 12 in CAPD's second round of
24 discovery, the Company responded: "The analysis
25 used to develop the judgment for the class
26 demand factors was not an arithmetic process or
27 analysis. Rather, results of demand studies
28 prepared for Pennsylvania-American Water
29 Company, West-Virginia American Water Company
30 and Philadelphia Suburban Water Company were
31 considered along with observations of the
32 Companies' service areas..."

33
34 **Q_11. Has the Company placed into the record the**
35 **demand studies of Pennsylvania-American Water**
36 **Company, West-Virginia American Water Company**
37 **and Philadelphia Suburban Water Company?**

1 A_11. No. The Company has not placed those demand
2 studies into the record.

3
4 Q_12. Are those out-of-state studies available on the
5 internet?

6
7 A_12. No, those out-of-state studies are not available
8 on the internet.

9
10 Q_13. Has the Company made those out-of-state studies
11 available for CAPD's review?

12
13 A_13. No, the Company has not made those out-of-state
14 studies available for CAPD's review.

15
16 Q_14. What is your opinion regarding the use of
17 "judgment" to allocate costs among revenue
18 classes?

19
20 A_14. My opinion is that "judgment" is a reasonable
21 procedure if it can be verified by reasonably
22 duplicating the process which led to the
23 "judgment." But the process may involve
24 situations where two different people might make
25 different judgments when faced with the same
26 facts.

27
28 For example, according to the Company's response
29 to CAPD's discovery request 69, in CAPD's first
30 round of requests, nearly 20% of the bills
31 rendered to consumers in the test year were
32 estimated rather than being the result of meter
33 readings, thus there were only 700,000 meter
34 readings in the twelve months ending July 2002.
35 But when I reviewed factor 13 in the cost of
36 service study, the total number of meter
37 readings was shown as nearly 840,000 in the same
38 twelve month period.

1
2 Apparently the Company's judgment is that a
3 large portion of meter readings can be skipped
4 without changing how meter reading costs are
5 allocated. I don't agree with that assessment.
6 If it were up to me, I would change the
7 allocations derived from factor 13 because I
8 would assume that nearly all the estimated bills
9 were from the residential class. Also, I would
10 protect the residential class from bearing an
11 unduly large portion of customer accounting
12 costs, which are allocated according to factor
13 12, the number of bills rendered. Customer
14 accounting costs are typically composed of
15 various overhead expenses as well as direct
16 expense.

17
18 Factor 12 is really nothing more than the
19 arbitrary allocation of overheads on the basis
20 of the number of bill rendered, which would
21 change only slightly from year to year,
22 especially if "balanced billing" is a major way
23 for consumers to pay bills. Instead, I would
24 allocate customer accounting costs on the number
25 of meters read, which would result in overhead
26 costs tracking the effort involved in getting
27 consumer's actual usage of the water system.

28
29 Continuing with this example, I would not
30 allocate costs on the basis of the maximum day
31 or maximum hour because those measures are not
32 necessarily related to capacity requirements the
33 revenue class imposes on the water system. As
34 shown in Mr. Herbert's testimony, Schedule C,
35 page 2, the sum of all class's average daily
36 consumption is 40,669,000 cubic feet and sum of
37 all class's maximum day consumption is 33,191,

1 900 cubic feet. These two figures added together
2 equal about 74 million. However, according to
3 the Company's response to CAPD's discovery
4 request 64, the water system maximum day usage
5 was about 51.5 million cubic feet on August 2,
6 2002. Because the sum of the revenue classes
7 average and maximum demands equal 74 million, a
8 figure much larger than the system peak of 51.5,
9 it is clear that each class's maximum day
10 consumption did not occur on August 2, 2002, the
11 time of the overall system's maximum day usage.

12
13 The residential class maximum day could have
14 been on Thanksgiving day, or New Year's day, or
15 at any other time when there was ample capacity.
16 Therefore, if it were up to me I would not
17 allocate costs on the basis of a maximum day,
18 instead I would allocate costs on the basis of
19 the class's contribution to system's maximum day
20 on August 2, 2002. Unfortunately, I do not have
21 any load information on the classes and neither
22 does the Company. The Company responded to
23 CAPD's discovery request 63: "The date of the
24 maximum usage for each customer class during the
25 test year is not known." The Company responded
26 to CAPD's discovery request 64: "The
27 contribution of each customer class to the peak
28 day volume is not known." Thus, there is no way
29 to verify the accuracy of the demand factors in
30 the Company's cost study, or the judgment
31 involved. Therefore, in my opinion the demand
32 factors used in the cost study are arbitrary and
33 Mr. Gorman's opinion, that the study is
34 reasonable, is wrong.
35

1 Q_15. Are those out-of-state studies the basis for Mr.
2 Herbert's derivation of the figures he uses as
3 the "Maximum Hour Extra Capacity?"
4

5 A_15. Yes, apparently. Mr. Herbert describes "Maximum
6 Hour Extra Capacity" in his Schedule C, Page 6
7 of 24: "The weighting of the factors is based on
8 the maximum hour ratio of 1.80 and the system
9 demand for fire protection..." That definition
10 appears four pages after Page 2 of Schedule C,
11 where Mr. Herbert describes his "review of
12 maximum day ratios experienced during the period
13 1995 through 2001." Therefore, it is reasonable
14 to believe that his "maximum hour" ratios are
15 based on the same demand studies.
16

17 Q_16. In light of Mr. Herbert's reliance on out-of-
18 state demand studies, what is your opinion of
19 Mr. Gorman's proposal to allocate the EPB's
20 Chattanooga's general power rate on the basis of
21 the "customers' maximum hour demand for water?"
22

23 A_16. In my opinion, given the company's responses to
24 CAPD's discovery requests, Mr. Gorman is
25 allocating power costs in Chattanooga on the
26 basis of capacity data in Pennsylvania and West
27 Virginia, none of which has been placed into the
28 record. Therefore, my opinion is that Mr.
29 Gorman's proposal be disregarded.
30

31 Q_17. What other evidence supports your opinion that
32 Mr. Gorman's proposal be disregarded?
33

34 A_17. Mr. Gorman's proposal is wholly dependent on the
35 correct measurement of the "customers' maximum
36 hour demand for water," but since there is no
37 accurate or verifiable measurement of that

1 demand, Mr. Gorman's proposal should be
2 disregarded.

3
4 Q_18. In your opinion, is the Company's cost of
5 service study a reasonable basis for Mr.
6 Gorman's proposal, that "To the greatest extent
7 possible...only the classes whose current rates do
8 not meet TAWC's full cost of service receive a
9 rate increase in this proceeding?"

10
11 A_18. No. In my opinion the Company's cost study is
12 not a reasonable basis for Mr. Gorman's
13 proposal. My opinion is that Mr. Gorman's
14 proposal be disregarded.

15
16 Q_19. Was CAPD able to compare the cost study to any
17 previous studies?

18
19 A_19. No, CAPD was unable to make such a comparison.
20 According to the Company's response to the City
21 of Chattanooga's discovery request Number 1 in
22 the City's second set of discovery requests, the
23 Company's last study was performed over ten
24 years ago. The Company did not place that study
25 in this case's record.

26
27 Q_20. What is your opinion regarding the CMA's
28 suggestion that residential customers are being
29 subsidized by the other customer classes?

30
31 A_20. My opinion is that there is no evidence
32 supporting CMA's suggestion that residential
33 customers are subsidized by other classes.

34
35 Q_21. Does this conclude your testimony?

36
37 A_21. Yes. It concludes my testimony at this time.

**BEFORE THE TENNESSEE REGULATORY AUTHORITY
AT NASHVILLE, TENNESSEE**

**IN RE: PETITION OF TENNESSEE-AMERICAN
WATER COMPANY FOR APPROVAL OF CHANGE
IN RATES AND CHARGES**

)
) **DOCKET NO. 03-00118**
)
)

AFFIDAVIT

STATE OF TENNESSEE)

COUNTY OF DAVIDSON)

Before me, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared, Steven N. Brown, being by me first duly sworn deposed and said that:

He is appearing as a witness on behalf of the Consumer Advocate and Protection Division of the Tennessee Attorney General's Office and if present before the Authority and duly sworn, his testimony is set forth in the annexed transcript consisting of 11 pages.


STEVE N. BROWN

Sworn to and subscribed before me
this 23rd day of June, 2003.



NOTARY PUBLIC

My commission expires: Oct. 25, 2003

Reducing TnAm COS To Independent Allocation Factors

Docket No. 03-00118
 Rebuttal Exhibit CAPD-SB
 Rebuttal Testimony

Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony

Schedule 1
 Page 1 of 25

Account	Description	Factor	Amount	SubTotals
6011	Operating Labor	2	4	
6011	Operating Expense	2	234	
6101	Purchased Water	1	17,561	
6202	Structures & Improvements	2	108,402	
	SUBTOTAL			126,201
6011	Gen. Sup & Eng Lab Oper PU	6	182,560	
6011	Labor Oper PU	6	807,716	
6151	Purch Power PU	1	1,375,606	
6152	Purch Power PU - Lookout Mtn. Tariff	19	139,029	
6153	Purch Power PU - Lakeview Tariff	20	35,479	
6161	Fuel for Power Production	1	1,343	
6201	Misc. Pumping Expenses - Curre	6	643	
6501	SS & Pump Transportation	6	40	
6751	Misc. Pumping Exp. Electric	6	2,685	
	SUBTOTAL			2,545,101
6013	Wt Operation Superv & Eng	2	167,848	
6013	General Wt Labor	2	36	
6183	General Chemicals	1	740,531	
6203	Misc Wt Expenses - Current	2	14,802	
6353	Wt Operation Superv & Eng	2	51,349	
6413	Wt Rents	2	16,998	
6503	Wt Oper Transportation	2	339	
6753	Waste Disposal Exp (Cur)	1	130,151	
6753	General Wt Expenses	2	59,612	
6753	Misc Wt Expenses - Current	2	51,775	
6204	Or Mn Wt Struct & Imp Mat	2	26,787	
6354	Other Wt Maint Contract Services	2	15,946	
6504	Wt maint Trasnportation	2	119	
	SUBTOTAL			1,276,293

Reducing TnAm COS To Independent Allocation Factors

Docket No. 03-00118

Rebuttal Exhibit CAPD-SB

Rebuttal Testimony

Schedule 1

Page 2 of 25

Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony

Account	Description	Factor	Amount	SubTotals
6015	T & d Ops Super eng	8	114,014	
6015	Storage Facilities Labor	5	114	
6015	Misc Meter Labor	10	553,258	
6015	Maps and Records Labor	7	477,519	
6155	Storage Facilities Expense	5	165	
6205	Misc T & D Expenses- Current	7	26,861	
6355	Other T & D Oper Contract Services	7	135,576	
6415	T&D Rents	8	1,648	
6505	Td Oper Transportation	8	1,278	
6755	T&D Lines Expense	7	5,594	
6755	Misc Meter Expenses	10	5,099	
6755	Misc T&D Expenses - Current	8	97,455	
6016	Or Mn T&D Supr & Eng	9	113,357	
6016	Or Mn T&D Mains Lab	7	413,068	
6016	Or Mn Services Lab	11	248,823	
6016	Or Mn Meters Lab	10	63,667	
6016	Or Mn Hydrants Lab	21	72,167	
6016	Or Mn Other T&D Plant Lab	9	906	
6206	Or Mn T&D Struct & Imp-Mat	7	539,714	
6356	Other T&D Maint Contract Services	9	642	
6506	Td Maint Transportation	9	52,692	
6756	Maps and Records Expenses	9	1,075	
6756	Or Mn Meters Mat	10	1,726	
SUBTOTAL				2,926,418
6017	Meter Reading Labor	13	448,685	
6017	Contracts & Orders labor	12	290,051	
6017	Billing & Accounting Salaries	12	22,843	
6047	Employee Benefits Ca	12	200	

Reducing TnAm COS To Independent Allocation Factors

Docket No. 03-00118
 Rebuttal Exhibit CAPD-SB
 Rebuttal Testimony
 Schedule 1

Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony Page 3 of 25

Account	Description	Factor	Amount	SubTotals
6207	Misc Ca Expenses - Current	12	24,594	
6327	Ca Contract Services	12	814	
6357	Other Ca Contract Services	12	106,671	
6427	Ca Rents	12	675	
6507	Ca Transportation	12	3,645	
6707	Uncollectible Accounts	12	280,644	
6757	Meter Reading Expenses	13	1,599	
6757	Collecting Expenses	12	40,940	
6757	Billing & Acctg-Computer	12	106,289	
6757	Cust Acctg - Billing/Telephone	12	1,023	
6757	Cust Acctg-Billing/Postage	12	261,304	
6757	Misc Cust Acctg Expenses	12	-439	
6757	Misc Oper Ca Cust Serv	12	117	
SUBTOTAL				1,589,655
6018	Adm & General Salaries	14	1,090,032	
6048	Employee Pensions & Benefits	15	2,048,940	
6208	Or Mn General Ag Plant	14	1,224	
6328	Contract Services - Auditing	14	20,186	
6338	Contract Services - Legal	14	45,557	
6348	Management Fees - Water Quality	1	123,000	
6348	Management Fees - Cust. Billing/Serv	12	617,000	
6348	Management Fees - Administration	14	1,767,276	
6358	Contract Services - Other	14	14,221	
6428	Adm & General Rents	14	23,408	
6508	Ag Transportation	14	251,198	
6578	General Liability	14	375,670	
6588	Workmens Comp Premium Exp	15	130,546	
6598	Insurance Other	14	203,470	
6608	Advertising Exp	14	97,592	

Reducing TrAm COS To Independent Allocation Factors

Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony

Docket No. 03-00118
 Rebuttal Exhibit CAPD-SB
 Rebuttal Testimony
 Schedule 1
 Page 4 of 25

Account	Description	Factor	Amount	SubTotals
6668	Regulatory Commission Expenses	18	83,000	
6758	Expenses of Employees	15	22,417	
6758	Misc Office Expenses	14	215,470	
6758	Injuries & Damages Exp	14	11,223	
6758	Research & Dev - Service Co	14	497	
6758	Or Mn A&G Struc & Imp Mat	14	21,392	
6758	Miscellaneous General Exp	14	520,510	
SUBTOTAL				7,683,829
303.99	Comprehensive Planning Study	14	81,026	
303	Land & Land Rights	2	0	
304.53	Miscellaneous Structures	2	21,609	
306.2	Lakes, Rivers, & Other Intakes	2	9,569	
339	Other P/E SS	2	505	
304.22	Pumping Structures	6	71,094	
304.22	Lookout Mtn	19	528	
304.22	Lakeview Tariff	20	648	
310.2	Power Generation Equipment	6	7,644	
311.22	Electric Pumping Equipment	6	90,500	
311.22	Lookout Mtn	19	5,937	
311.22	Lakeview Tariff	20	1,490	
311.23	Deisel PUMping Equipment	6	2,350	
311.27	Other Pumping Equipment	6	203	
303	Land & Land Rights	2	0	
304.31	Water Treatment Structures	2	77,972	
304.32	Water Treatment Structures - Painting	2	170,079	
320.31	Water Treatment Equipment	2	522,828	
320.33	Granular Activated Carbon	2	0	

Reducing TnAm COS To Independent Allocation Factors

Docket No. 03-00118
 Rebuttal Exhibit CAPD-SB
 Rebuttal Testimony
 Schedule 1

Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony

Page 5 of 25

Account	Description	Factor	Amount	SubTotals
303	Land & Land Rights	7	0	
304.4	T&D Structures	7	17,642	
330.41	T&D Reservoirs & Standpipes	5	82,842	
330.41	Lookout Mtn	19	3,484	
330.41	Lakeview Tariff	20	821	
330.42	T&D Reservoirs & Standpipes	5	108,064	
330.42	Lookout Mtn	19	4,096	
330.43	Elevated Tanks & Standpipes	5	2,922	
331.4	T&D Mains not Classified	4	43,103	
331.41	T&D Mains - Mains (4" or less)	4	60,866	
331.44	T&D Mains - Mains (6" - 8")	4	5,125	
331.42	T&D Mains - Mains (6" - 10")	4	642,041	
331.45	T&D Mains - Mains (10" - 16")	3	19,087	
331.43	T&D Mains - Mains (12" or More)	3	285,312	
333.4	Services	11	321,036	
334.41	Meters	10	23,742	
334.42	Meters-Metal Case/Old Style	10	0	
334.43	Meters-Plastic Case	10	14,064	
334.44	Meters - Metal Case/New Style	10	1,773	
334.45	Meter Installations	10	103,942	
335.4	Hydrants	21	127,499	
303	Land & Land Rights	14	0	
304.51	Office Structures	14	6,031	
304.52	Stores, Shop, & Garage Structures	14	14,868	
340.51	Office Furniture	14	14,169	
340.53	Computer & Peripheral Equipment	14	361,106	
340.56	Computer & Periph Personal	14	193,468	
340.57	Computer & Periph Ohter	14	13,375	

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Account	Description	Factor	Amount	SubTotals
340.55	Computer Software	14	166,850	
340.58	Computer Software Personal	14	51,040	
340.59	Computer Software Other	14	28,445	
340.54	Other Office Equipment	14	5,584	
341.52	Light Trucks	14	104,282	
341.53	Heavy Trucks	14	69,654	
341.54	Automobiles	14	17,264	
341.55	Transportation-Other	14	248	
342.5	Stores Equipment	14	2,161	
343.5	Tools, Shop, & Garage Equipment	14	30,089	
344.5	Laboratory Equipment	2	37,080	
345.5	Power Operated Equipment	14	20,754	
346.51	Communication Equipment	14	20,791	
346.53	Communication Equipment - Telephone	14	26,281	
347.51	Miscellaneous Structures	14	8,094	
SUBTOTAL				4,123,077
681	Amort of CIAC	4	-107,357	
681	Amort of Capital Leases	14	106,033	
SUBTOTAL				4,121,753
685	Property Taxes	16	2,660,657	
685	FUTA Oper AG	15	5,557	
685	FICA Oper AG	15	375,600	
685	SUTA Oper AG	15	278	
685	Franchise Taxes	18	251,047	
685	PSC Fee	18	56,538	
685	Filing Fee	18	150	
685	Gross Receipts Tax	18	414,297	
SUBTOTAL				3,764,124
409	Federal and State Income Taxes	17	2,773,308	

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Cost of Service Study - As Presented in Mr. Herbert's Direct Testimony

Account	Description	Factor	Amount	SubTotals
	Op Income	17	7,469,489	
	Other Revs	18	-818,522	
	Billing Services	12	-306,554	

GRAND TOTAL	33,151,095	33,151,095
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COS By Allocation Factors - In Ascending Order of Factor

Account Description	Factor	Amount	SubTotals
6161 Fuel for Power Production	1	1,343	
6101 Purchased Water	1	17,561	
6348 Management Fees - Water Quality	1	123,000	
6753 Wawste Disposal Exp (Cur)	1	130,151	
6183 General Chemicals	1	740,531	
6151 Purch Power PU	1	1,375,606	2,388,192
303 Land & Land Rights	2	0	
303 Land & Land Rights	2	0	
320.33 Granular Activated Carbon	2	0	
6011 Operating Labor	2	4	
6013 General Wt Labor	2	36	
6504 Wt maint Trasnportation	2	119	
6011 Operating Expense	2	234	
6503 Wt Oper Transportation	2	339	
339 Other P/E SS	2	505	
306.2 Lakes, Rivers, & Other Intakes	2	9,569	
6203 Misc Wt Expenses - Current	2	14,802	
6354 Other Wt Maint Contract Services	2	15,946	
6413 Wt Rents	2	16,998	
304.53 Miscellaneous Structures	2	21,609	
6204 Or Mn Wt Struct & Imp Mat	2	26,787	
344.5 Laboratory Equipment	2	37,080	
6353 Wt Operation Superv & Eng	2	51,349	
6753 Misc Wt Expenses - Current	2	51,775	
6753 General Wt Expenses	2	59,612	
304.31 Water Treatment Structures	2	77,972	
6202 Structures & Improvements	2	108,402	
6013 Wt Operation Superv & Eng	2	167,848	
304.32 Water Treatment Structures - Painting	2	170,079	

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COS By Allocation Factors - In Ascending Order of Factor

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Account Description	Factor	Amount	SubTotals
320.31 Water Treatment Equipment	2	522,828	1,353,893
331.45 T&D Mains - Mains (10" - 16")	3	19,087	
331.43 T&D Mains - Mains (12" or More)	3	285,312	304,399
681 Amort of CIAC	4	-107,357	
331.44 T&D Mains - Mains (6" - 8")	4	5,125	
331.4 T&D Mains not Classified	4	43,103	
331.41 T&D Mains - Mains (4" or less)	4	60,866	
331.42 T&D Mains - Mains (6" - 10")	4	642,041	643,778
6015 Storage Facilities Labor	5	114	
6155 Storage Facilities Expense	5	165	
330.43 Elevated Tanks & Standpipes	5	2,922	
330.41 T&D Reservoirs & Standpipes	5	82,842	
330.42 T&D Reservoirs & Standpipes	5	108,064	194,107
6501 SS & Pump Transportation	6	40	
311.27 Other Pumping Equipment	6	203	
6201 Misc. Pumping Expenses - Curre	6	643	
311.23 Deisel Pumping Equipment	6	2,350	
6751 Misc. Pumping Exp. Electric	6	2,685	
310.2 Power Generation Equipment	6	7,644	
304.22 Pumping Structures	6	71,094	
311.22 Electric Pumping Equipment	6	90,500	
6011 Gen. Sup & Eng Lab Oper PU	6	182,560	
6011 Labor Oper PU	6	807,716	1,165,435
303 Land & Land Rights	7	0	
6755 T&D Lines Expense	7	5,594	
304.4 T&D Structures	7	17,642	
6205 Misc T & D Expenses- Current	7	26,861	
6355 Other T & D Oper Contract Services	7	135,576	
6016 Or Mn T&D Mains Lab	7	413,068	

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COS By Allocation Factors - In Ascending Order of Factor

Account Description	Factor	Amount	SubTotals
6015 Maps and Records Labor	7	477,519	
6206 Or Mn T&D Struct & Imp-Mat	7	539,714	
6505 Td Oper Transportation	8	1,278	1,615,974
6415 T&D Rents	8	1,648	
6755 Misc T&D Expenses - Current	8	97,455	
6015 T & d Ops Super eng	8	114,014	214,395
6356 Other T&D Maint Contract Services	9	642	
6016 Or Mn Other T&D Plant Lab	9	906	
6756 Maps and Records Expenses	9	1,075	
6506 Td Maint Transportation	9	52,692	
6016 Or Mn T&D Supr & Eng	9	113,357	168,672
334.42 Meters-Metal Case/Old Style	10	0	
6756 Or Mn Meters Mat	10	1,726	
334.44 Meters - Metal Case/New Style	10	1,773	
6755 Misc Meter Expenses	10	5,099	
334.43 Meters-Plastic Case	10	14,064	
334.41 Meters	10	23,742	
6016 Or Mn Meters Lab	10	63,667	
334.45 Meter Installations	10	103,942	
6015 Misc Meter Labor	10	553,258	767,271
6016 Or Mn Services Lab	11	248,823	
333.4 Services	11	321,036	569,859
Billing Services	12	-306,554	
6757 Misc Cust Acctg Expenses	12	-439	
6757 Misc Oper Ca Cust Serv	12	117	
6047 Employee Benefits Ca	12	200	
6427 Ca Rents	12	675	
6327 Ca Contract Services	12	814	
6757 Cust Acctg - Billing/Telephone	12	1,023	

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Account Description	Factor	Amount	SubTotals
6507 Ca Transportation	12	3,645	
6017 Billing & Accounting Salaries	12	22,843	
6207 Misc Ca Expenses - Current	12	24,594	
6757 Collecting Expenses	12	40,940	
6757 Billing & Acctg-Computer	12	106,289	
6357 Other Ca Contract Services	12	106,671	
6757 Cust Acctg-Billing/Postage	12	261,304	
6707 Uncollectible Accounts	12	280,644	
6017 Contracts & Orders labor	12	290,051	
6348 Management Fees - Cust. Billing/Serv	12	617,000	1,449,817
6757 Meter Reading Expenses	13	1,599	
6017 Meter Reading Labor	13	448,685	450,284
303 Land & Land Rights	14	0	
341.55 Transportation-Other	14	248	
6758 Research & Dev - Service Co	14	497	
6208 Or Mn General Ag Plant	14	1,224	
342.5 Stores Equipment	14	2,161	
340.54 Other Office Equipment	14	5,584	
304.51 Office Structures	14	6,031	
347.51 Miscellaneous Structures	14	8,094	
6758 Injuries & Damages Exp	14	11,223	
340.57 Computer & Periph Ohter	14	13,375	
340.51 Office Furniture	14	14,169	
6358 Contract Services - Other	14	14,221	
304.52 Stores, Shop, & Garage Structures	14	14,868	
341.54 Automobiles	14	17,264	
6328 Contract Services - Auditing	14	20,186	
345.5 Power Operated Equipment	14	20,754	
346.51 Communication Equipment	14	20,791	

Reducing TrAm COS To Independent Allocation Factors

COS By Allocation Factors - In Ascending Order of Factor

Account Description	Factor	Amount	SubTotals
6758 Or Mn A&G Struc & Imp Mat	14	21,392	
6428 Adm & General Rents	14	23,408	
346.53 Communication Equipment - Telephone	14	26,281	
340.59 Computer Software Other	14	28,445	
343.5 Tools, Shop, & Garage Equipment	14	30,089	
6338 Contract Services - Legal	14	45,557	
340.58 Computer Software Personal	14	51,040	
341.53 Heavy Trucks	14	69,654	
303.99 Comprehensive Planning Study	14	81,026	
6608 Advertising Exp	14	97,592	
341.52 Light Trucks	14	104,282	
681 Amort of Capital Leases	14	106,033	
340.55 Computer Software	14	166,850	
340.56 Computer & Periph Personal	14	193,468	
6598 Insurance Other	14	203,470	
6758 Misc Office Expenses	14	215,470	
6508 Ag Transportation	14	251,198	
340.53 Computer & Peripheral Equipment	14	361,106	
6578 General Liability	14	375,670	
6758 Miscellaneous General Exp	14	520,510	
6018 Adm & General Salaries	14	1,090,032	
6348 Management Fees - Administration	14	1,767,276	
685 SUTA Oper AG	15	278	6,000,539
685 FUTA Oper AG	15	5,557	
6758 Expenses of Employees	15	22,417	
6588 Workmens Comp Premium Exp	15	130,546	
685 FICA Oper AG	15	375,600	
6048 Employee Pensions & Benefits	15	2,048,940	
685 Property Taxes	16	2,660,657	2,583,338
			2,660,657

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COS By Allocation Factors - In Ascending Order of Factor

Account Description	Factor	Amount	SubTotals
409 Federal and State Income Taxes	17	2,773,308	
Op Income	17	7,469,489	10,242,797
Other Rvs	18	-818,522	
685 Filing Fee	18	150	
685 PSC Fee	18	56,538	
6668 Regulatory Commission Expenes	18	83,000	
685 Franchise Taxes	18	251,047	
685 Gross Receipts Tax	18	414,297	-13,490
304.22 Lookout Mtn	19	528	
330.41 Lookout Mtn	19	3,484	
330.42 Lookout Mtn	19	4,096	
311.22 Lookout Mtn	19	5,937	
6152 Purch Power PU - Lookout Mtn. Tariff	19	139,029	153,074
304.22 Lakeview Tariff	20	648	
330.41 Lakeview Tariff	20	821	
311.22 Lakeview Tariff	20	1,490	
6153 Purch Power PU - Lakeview Tariff	20	35,479	38,438
6016 Or Mn Hydrants Lab	21	72,167	
335.4 Hydrants	21	127,499	199,666
GRAND TOTAL		33,151,095	33,151,095

Reducing TnAm COS To Independent Allocation Factors

COS - Summarized by Factor In Descending Order of Allocated Amount

Composition of Factor 17*

Factor	Allocated Amount	Percent	Cumulative Percent	Factor	Amount	Percent	Weight	Amount To Reallocate To Remaining Factors
17	10,242,797	30.9%	30.9%	4	38,922,481	44.6%	13.8%	4,568,264
14	6,000,539	18.1%	49.0%	3	17,338,563	19.9%	6.1%	2,034,997
16	2,660,657	8.0%	57.0%	14	8,243,299	9.4%	2.9%	967,502
15	2,583,338	7.8%	64.8%	11	7,945,741	9.1%	2.8%	932,578
1	2,388,192	7.2%	72.0%	2	7,867,085	9.0%	2.8%	923,346
7	1,615,974	4.9%	76.9%	10	7,398,242	8.5%	2.6%	868,319
12	1,449,817	4.4%	81.3%	6	4,915,144	5.6%	1.7%	576,882
2	1,353,893	4.1%	85.4%	5	4,134,299	4.7%	1.5%	485,236
6	1,165,435	3.5%	88.9%	21	4,080,377	4.7%	1.4%	478,907
10	767,271	2.3%	91.2%	7	673,068	0.8%	0.2%	78,997
4	643,778	1.9%	93.1%	19	366,983	0.4%	0.1%	43,072
11	569,859	1.7%	94.8%	20	94,256	0.1%	0.0%	11,063
13	450,284	1.4%	96.2%	16	-14,708,959	-16.9%	-5.2%	-1,726,365
3	304,399	0.9%	97.1%		87,270,579	100.0%		10,242,797
8	214,395	0.6%	97.8%					
21	199,666	0.6%	98.4%					
5	194,107	0.6%	99.0%					
9	168,672	0.5%	99.5%					
19	153,074	0.5%	99.9%					
20	38,438	0.1%	100.0%					
18	-13,490	0.0%	100.0%					
	33,151,095	100.0%						

*Source: Cost of Service Study Schedule C Page 19 of 24

Reducing TrAm COS To Independent Allocation Factors

COS By Factors When Factor 17 is Removed

Composition of Factor 16*

Factor	Allocated Amount	Percent	Cumulative Percent
1	2,388,192	7.2%	7.2%
2	2,242,858	6.8%	14.0%
3	2,383,542	7.2%	21.2%
4	4,126,867	12.4%	33.6%
5	620,784	1.9%	35.5%
6	1,665,336	5.0%	40.5%
7	1,695,561	5.1%	45.6%
8	214,395	0.6%	46.3%
9	168,672	0.5%	46.8%
10	1,502,777	4.5%	51.3%
11	1,357,641	4.1%	55.4%
12	1,449,817	4.4%	59.8%
13	450,284	1.4%	61.1%
14	6,816,361	20.6%	81.7%
15	2,583,338	7.8%	89.5%
16	2,660,657	8.0%	97.5%
17	0	0.0%	97.5%
18	-13,490	0.0%	97.5%
19	190,740	0.6%	98.0%
20	48,647	0.1%	98.2%
21	598,115	1.8%	100.0%
	33,151,095	100%	

Factor	Amount	Percent	Weight	Remaining	Amount To Reallocate To
4	44,020,867	41.7%	3.3%		1,108,667
3	17,338,563	16.4%	1.3%		436,672
11	8,771,368	8.3%	0.7%		220,907
2	8,432,596	8.0%	0.6%		212,375
10	7,352,156	7.0%	0.6%		185,164
14	5,048,605	4.8%	0.4%		127,149
6	4,915,144	4.7%	0.4%		123,788
21	4,496,474	4.3%	0.3%		113,244
5	4,134,299	3.9%	0.3%		104,122
7	673,068	0.6%	0.1%		16,951
19	366,983	0.3%	0.0%		9,242
20	94,256	0.1%	0.0%		2,374
	105,644,379	100.0%	8.0%		2,660,657

Accuracy: 100%
 *Source: Cost of Service Study Schedule C Page 16

Next Dependent Factor To Remove

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COS By Factors When Factors 17 and 16 are Removed

Factor	Allocated Amount	Percent	Cumulative Percent
1	2,388,192	7.2%	7.2%
2	2,455,233	7.4%	14.6%
3	2,820,215	8.5%	23.1%
4	5,235,534	15.8%	38.9%
5	724,907	2.2%	41.1%
6	1,789,124	5.4%	46.5%
7	1,712,513	5.2%	51.7%
8	214,395	0.6%	52.3%
9	168,672	0.5%	52.8%
10	1,687,941	5.1%	57.9%
11	1,578,548	4.8%	62.7%
12	1,449,817	4.4%	67.0%
13	450,284	1.4%	68.4%
14	6,943,510	20.9%	89.3%
15	2,583,338	7.8%	97.1%
16	0	0.0%	97.1%
17	0	0.0%	97.1%
18	-13,490	0.0%	97.1%
19	199,983	0.6%	97.7%
20	51,021	0.2%	97.9%
21	711,359	2.1%	100.0%
	33,151,095	100.0%	

Next Dependent
Factor To Remove

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Composition of Factor 14*

Description	Factor	Amount	Percent
Water Treatment Expenses	1	130,151	2.2%
Power & Pumping Expenses	1	1,343	0.0%
Source of Supply & Maintenance	2	167,848	2.8%
Water Treatment Expenses	2	59,612	1.0%
Power & Pumping Expenses	2	51,775	0.9%
Water Treatment Expenses	2	51,349	0.8%
Water Treatment Expenses	2	26,787	0.4%
Water Treatment Expenses	2	16,998	0.3%
Water Treatment Expenses	2	15,946	0.3%
Water Treatment Expenses	2	14,802	0.2%
Water Treatment Expenses	2	339	0.0%
Water Treatment Expenses	2	119	0.0%
Water Treatment Expenses	2	36	0.0%
Water Treatment Expenses	5	165	0.0%
Water Treatment Expenses	5	114	0.0%
Water Treatment Expenses	6	807,716	13.4%
Source of Supply & Maintenance	6	182,560	3.0%
Source of Supply & Maintenance	6	2,685	0.0%
Source of Supply & Maintenance	6	643	0.0%
T&D Expenses	6	40	0.0%
Power & Pumping Expenses	7	539,714	8.9%
Power & Pumping Expenses	7	477,519	7.9%
Power & Pumping Expenses	7	413,068	6.8%
Power & Pumping Expenses	7	135,576	2.2%
Power & Pumping Expenses	7	26,861	0.4%
Power & Pumping Expenses	7	5,594	0.1%
T&D Expenses	8	114,014	1.9%

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Composition of Factor 14*

Description	Factor	Amount	Percent
T&D Expenses	8	97,455	1.6%
T&D Expenses	8	1,648	0.0%
T&D Expenses	8	1,278	0.0%
T&D Expenses	9	113,357	1.9%
T&D Expenses	9	52,692	0.9%
T&D Expenses	9	1,075	0.0%
T&D Expenses	9	906	0.0%
T&D Expenses	9	642	0.0%
T&D Expenses	10	553,258	9.1%
T&D Expenses	10	63,667	1.1%
T&D Expenses	10	5,099	0.1%
T&D Expenses	10	1,726	0.0%
T&D Expenses	11	248,823	4.1%
T&D Expenses	12	290,051	4.8%
T&D Expenses	12	280,644	4.6%
T&D Expenses	12	261,304	4.3%
T&D Expenses	12	106,671	1.8%
T&D Expenses	12	106,289	1.8%
T&D Expenses	12	40,940	0.7%
T&D Expenses	12	24,594	0.4%
T&D Expenses	12	22,843	0.4%
T&D Expenses	12	3,645	0.1%
T&D Expenses	12	1,023	0.0%
T&D Expenses	12	814	0.0%
T&D Expenses	12	675	0.0%
T&D Expenses	12	200	0.0%
T&D Expenses	12	117	0.0%

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Composition of Factor 14*

Description	Factor	Amount	Percent
Customer Accing Expenses	12	-439	0.0%
Customer Accing Expenses	13	448,685	7.4%
Customer Accing Expenses	13	1,599	0.0%
Customer Accing Expenses	21	72,167	1.2%
		6,046,822	100%

*Source: Cost of Service Study Schedule C Page 18 of 24

Reducing TrAm COS To Independent Allocation Factors

Composition of Factor 14* (Continued)

Reduce By Ratio:				
(6,023,964/ 6,046,822)*				
Factor	Amount	Amount Reduced To:	Percent Weight	Amount To Reallocate
1	131,494	130,997	2.2%	0.5%
2	405,611	404,078	6.7%	1.4%
5	279	278	0.0%	0.0%
6	993,644	989,888	16.4%	3.4%
7	1,598,332	1,592,290	26.4%	5.5%
8	214,395	213,585	3.5%	0.7%
9	168,672	168,034	2.8%	0.6%
10	623,750	621,392	10.3%	2.2%
11	248,823	247,882	4.1%	0.9%
12	1,139,371	1,135,064	18.8%	3.9%
13	450,284	448,582	7.4%	1.6%
19	0	0	0.0%	0.0%
20	0	0	0.0%	0.0%
21	72,167	71,894	1.2%	0.2%
Accuracy=99%	6,046,822	6,023,964	100.0%	20.9%
				6,943,644

Reducing TnAm COS To Independent Allocation Factors

Composition of Cost-of-Service By
Factors When Factor 16, Factor 17,
and Factor 14 Are Removed

Factor	Allocated Amount	Percent	Cumulative Percent
1	2,539,188	7.7%	7.7%
2	2,921,002	8.8%	16.5%
3	2,820,215	8.5%	25.0%
4	5,235,534	15.8%	32.3%
5	725,227	2.2%	34.5%
6	2,930,139	8.8%	43.3%
7	3,547,898	10.7%	54.0%
8	460,588	1.4%	55.4%
9	362,360	1.1%	56.5%
10	2,404,202	7.3%	63.7%
11	1,864,274	5.6%	69.4%
12	2,758,172	8.3%	77.7%
13	967,351	2.9%	80.6%
14	0	0.0%	80.6%
15	2,583,338	7.8%	7.8%
16	0	0.0%	7.8%
17	0	0.0%	7.8%
18	-13,490	0.0%	7.8%
19	199,983	0.6%	8.4%
20	51,021	0.2%	8.5%
21	794,230	2.4%	10.9%
	33,151,229	100.0%	

Next Dependent
Factor To Remove

Reducing TnAm COS To Independent Allocation Factors

Composition of Factor 15

Estimated Composition				Final Summary of Factor 15			
Descrip	Labor Source	Account	Factor	Amount	Percent	Reduce By Ratio:	Amount to Reallocate
Labor	Source of supply -Operating Labor	6011	2	4	0.0%	(5,066,664/	19
Labor	Storage Facilities labor	6011	6	182,560	3.4%	5,387,190)	55
Labor	Labor Oper PU	6013	2	807,716	15.0%		474,871
Labor	General Wt Lab	6013	2	36	0.0%		427,066
Labor	Storage Facilities labor	6015	5	114	0.0%		494,292
Labor	Misc Meter Labor	6015	10	553,258	10.3%		295,836
Labor	Maps and Records Labor	6015	7	477,519	8.9%		139,089
Labor	Or Mn T&D Mains Lab	6016	11	413,068	7.7%		215,159
Labor	Or Mn Services Lab	6016	10	248,823	4.6%		34,606
Labor	Or Mn Meters Lab	6016	21	63,667	1.2%		
Labor	Or Mn Hydrants Lab	6016	9	72,167	1.3%		
Labor	Or Mn Other T&D Plant Lab	6016	13	906	0.0%		
Labor	Meter Reading Labor	6017	12	448,685	8.3%		
Labor	Contracts & orders Labor	6017	8	290,051	5.4%		
Labor	Labor in Factor 8		8	553,258	10.3%		
Labor	Labor in Factor 8		8	477,519	8.9%		
Labor	Labor in Factor 8		8	114	0.0%		
Labor	Labor in Factor 9		9	413,068	7.7%		
Labor	Labor in Factor 9		9	248,823	4.6%		
Labor	Labor in Factor 9		9	63,667	1.2%		
Labor	Labor in Factor 9		9	72,167	1.3%		
Total Labor				5,387,190	100.0%		
*Source: Cost of Service Study Schedule C Page 18 of 24				5,066,664	7.8%		
Accuracy=94%							
				Amount	Reduced To: Weights	Amount	Subtotal
				4	0%	2	19
				171,698	0%	17	55
				759,659	1%	55	
				34	0%	6	474,871
				107	0%	6	387,327
				520,340	1%	7	228,986
				449,108	1%	7	198,080
				388,491	1%	8	265,306
				234,019	0%	8	228,986
				59,879	0%	8	55
				67,873	0%	9	434
				852	0%	9	198,080
				421,989	1%	9	119,319
				272,794	0%	9	30,530
				520,340	1%	9	34,606
				449,108	1%	10	265,306
				107	0%	10	30,530
				388,491	1%	11	119,319
				234,019	0%	12	139,089
				59,879	0%	13	215,159
				67,873	0%	21	34,606
							2,583,283

Reducing TrAm COS To Independent Allocation Factors

Composition of Cost-of-Service By Factors When
 Factor 16, Factor 17, Factor 14 and Factor 15 are
 Removed

Factor	Allocated		Cumulative	
	Amount	SubTotals	Percent	
1	2,539,188	7.7%	7.7%	
2	2,921,021	8.8%	16.5%	
3	2,820,215	8.5%	25.0%	
4	5,235,534	15.8%	40.8%	
5	725,282	2.2%	43.0%	
6	3,405,009	10.3%	53.2%	
7	3,974,964	12.0%	65.2%	
8	954,880	2.9%	68.1%	
9	745,331	2.2%	70.3%	
10	2,700,038	8.1%	78.5%	
11	1,983,593	6.0%	84.5%	
12	2,897,261	8.7%	93.2%	
13	1,182,510	3.6%	96.8%	
14	0	0.0%	96.8%	
15	0	0.0%	96.8%	
16	0	0.0%	96.8%	
17	0	0.0%	96.8%	
18	-13,490	0.0%	96.7%	
19	199,983	0.6%	97.3%	
20	51,021	0.2%	97.5%	
21	828,836	2.5%	100.0%	
	33,151,175	100.0%		

Composition of Factor 9			Amount To
Factor			Reallocate
7	413,068	52%	385,938
11	248,823	31%	232,480
10	63,667	8%	59,485
21	72,167	9%	67,427
Accuracy = 100%	797,725	100%	745,331

Composition of Factor 8			
Factor			
5	114	0%	106
10	553,258	54%	512,464
7	477,519	46%	442,310
Accuracy = 100%	1,030,891	100%	954,880

Reducing TnAm COS To Independent Allocation Factors

Composition of Cost-of-Service By Factors When Factor 16, Factor 17, Factor 14, Factor 15, Factor 8 and Factor 9 are Removed

Factor	Allocated		Cumulative	
	Amount	Percent	Percent	
1	2,606,615	7.9%	7.9%	
2	2,921,021	8.8%	16.7%	
3	2,820,215	8.5%	25.2%	
4	5,235,534	15.8%	41.0%	
5	725,387	2.2%	43.2%	
6	3,405,009	10.3%	53.4%	
7	4,803,212	14.5%	67.9%	
8	0	0.0%	67.9%	
9	0	0.0%	67.9%	
10	3,271,988	9.9%	77.8%	
11	2,216,074	6.7%	84.5%	
12	2,897,261	8.7%	93.2%	
13	1,182,510	3.6%	96.8%	
14	0	0.0%	96.8%	
15	0	0.0%	96.8%	
16	0	0.0%	96.8%	
17	0	0.0%	96.8%	
18	-13,490	0.0%	96.7%	
19	199,983	0.6%	97.3%	
20	51,021	0.2%	97.5%	
21	828,836	2.5%	100.0%	
	33,151,175	100.0%		

Next Dependent Factors To Remove



Composition of Factor 7		Amount To	
		Reallocate	
Accuracy = 100%			
$= 0.1734 \times \text{Factor 3}$		832,877	
$= 0.8266 \times \text{Factor 4}$		3,970,335	
		4,803,212	
Composition of Factor 6			
$= 0.2200 \times \text{Factor 2}$		749,102	
$= 0.7001 \times \text{Factor 3}$		2,383,847	
$= 0.0799 \times \text{Factor 4}$		272,060	
Accuracy = 100%		3,405,009	

Reducing TrAm COS To Independent Allocation Factors

Composition of Cost-of-Service By Factors When Factor 16,
Factor 17, Factor 14, Factor 15, Factor 8, Factor 9, Factor 6 and
Factor 7 Are Removed

Factor	Allocated Amount	Percent	Cumulative Percent	Cumulative Amount	Amount Allocated By Max Day and Max Hour	Amount Allocated By Average Hour
1	2,606,615	7.9%	7.9%	2,606,615	0	2,606,615
2	3,670,123	11.1%	18.9%	6,276,738	1,101,037	2,569,086
3	6,036,939	18.2%	37.1%	12,313,677	1,811,082	4,225,857
4	9,477,929	28.6%	65.7%	21,791,607	4,738,965	4,738,965
5	725,387	2.2%	67.9%	21,791,607	7,651,083	14,140,524
6	0	0.0%	67.9%	22,516,994		
7	0	0.0%	67.9%	22,516,994		
8	0	0.0%	67.9%	22,516,994		
9	0	0.0%	67.9%	22,516,994		
10	3,271,988	9.9%	77.8%	25,788,982		
11	2,216,074	6.7%	84.5%	28,005,056		
12	2,897,261	8.7%	93.2%	30,902,316		
13	1,182,510	3.6%	96.8%	32,084,827		
14	0	0.0%	96.8%	32,084,827		
15	0	0.0%	96.8%	32,084,827		
16	0	0.0%	96.8%	32,084,827		
17	0	0.0%	96.8%	32,084,827		
18	-13,490	0.0%	96.7%	32,071,337		
19	199,983	0.6%	97.3%	32,271,320		
20	51,021	0.2%	97.5%	32,322,340		
21	828,836	2.5%	100.0%	33,151,176		
22	33,151,176	100.0%				

Allocated by
judgment and out-
of-state demand
studies not in the
record.

CERTIFICATE OF SERVICE

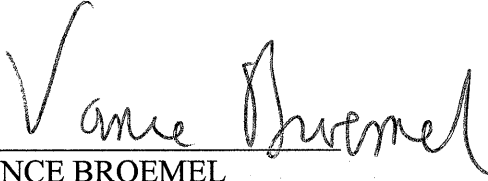
I hereby certify that a true and exact copy of the foregoing has been forwarded by first-class mail, postage prepaid on June 23, 2003, to the following:

R. Dale Grimes, Esq.
Bass, Berry & Sims, PLC
Amsouth Center
315 Deaderick Street, Suite 2700
Nashville, TN 37238-3001

Michael A. McMahan, Esq.
Phillip A. Noblett, Esq.
Lawrence W. Kelly, Esq.
Nelson, McMahan & Noblett
801 Broad Street, Suite 400
Chattanooga, TN 37402

Henry M. Walker, Esq.
Boult, Cummings, Conners & Berry, PLC
414 Union Street, Suite 1600
Nashville, TN 37219

David C. Higney, Esq.
Grant, Konvalinka & Harrison, P.C.
633 Chestnut Street, 9th Floor
Chattanooga, TN 37450


VANCE BROEMEL
Assistant Attorney General